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EXAMINER	
SAHA, BIJAY S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,199	SANG ET AL.	
	Examiner	Art Unit	
	BIJAY SAHA	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *13-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 05/25/2011 has been entered.

Status of Claims

Claims 1-21 are pending. Claims 1-12 and 21 are under examination. Claims 13-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group of claims, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 11/19/2009.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horii et al EP 0456931 (Horii).

Regarding claim 1, Horii discloses Coanda spiral flow device (Title), a suction intake (Fig 2 part #1), an outlet (Fig 2 part # 4), a fluid channel extending between the suction intake and the outlet (Fig 2), a drive flow inlet (Fig 2 part # 11), in fluid flow communication with the fluid channel (Fig 2), discharge slit (Fig 2 part #5). surrounded by larger bore (compared to outlet #4) surface (part # 6 Fig 2). Horii further discloses adjustments of the threads via the coupling flanges (part # 3 and #9 Fig 2) the clearance of slit (part #5) is adjusted (col 3 lines 25-30).

Regarding the claim recitation “adjusts the flow cross section”, Horii discloses difficulty in the conventional design to adjust the slit to an accuracy of 0.01 mm in the assembly operation (page 2 left col, line46); however, the improved design of forming the sub assemblies A, B and C (Fig 2) allows such an accuracy and permits the occasional assembly of units at the job site (page 3 left col, line 37). Consistent with the Horii teaching, at the time of invention it would have been obvious to a person of

ordinary skill in the art that the slits are adjustable slits; hence, capable of adjustment of flow cross section and maintain the pressure requirements. Hence, prior art anticipates the claim limitation.

Regarding the claim recitation of “an electronic control unit”, it is noted that the said recitation (electronic control unit) controls the flow cross section electronically. It is further noted that the slits as disclosed by Horii also control the flow cross section in a manner analogous to the claimed recitation. Horii does not explicitly describe whether the slit are operated electronically or not. Even assuming the slits are not operated electronically and operated manually, i.e. not operated by an electronic control unit, the manual operation is equivalent to electronic control in functionality. It is to be further noted: In MPEP 2144.04 III: Providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art. Therefore, Horii anticipates the claim limitation.

Regarding the claim limitation “after assembly of the Coanda flow amplifier” it is noted that the “Coanda flow amplifier” is an apparatus. It is further noted that the adjustment of the flow cross section so that the discharge slit does not exceed a critical ratio is the operational characteristics of the apparatus when the apparatus is in operation. The as-assembled state of the apparatus is not necessarily the operational state of the apparatus. The adjustment of the flow cross section by an electronic control unit is expected to take place during the operation of the apparatus after the assembly. Therefore, prior art anticipates the claim limitation.

Regarding the claim recitation intake pressure does not exceed a critical pressure ratio, it is noted that functionality of the slit whether operated manually or electronically is to maintain the required pressure ratio. It is further noted that the electronic control unit is expected to control the flow so that the pressure ratio remains in an operational range. Therefore, the function of the electronic control unit is to control the flow as necessitated by the pressure ratio. In MPEP: 2114[R-1] Apparatus Functional Language: APPARATUS CLAIMS MUST BE STRUCTUR-ALLY DISTINGUISHABLE FROM THE PRIOR ART. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Hence, prior art anticipates the claim limitation.

Thus, at the time of invention it would have been obvious to a person of ordinary skill in the art to assemble the Coanda flow amplifier utilizing the teachings of Horii. One of ordinary skill in the art, at the time of the invention would have been motivated to do so because Horii provides the teaching for the Coanda flow amplifier.

Regarding claim 2, Horii further discloses adjustments of the threads via the coupling flanges (part # 3 and #9 Fig 2) the clearance of slit (part #5) is adjusted (col 3 lines 25-30). Consistent with the Horii teaching, at the time of invention it would have been obvious to a person of ordinary skill in the art that the slits are adjustable slits; hence, capable of adjustment of flow cross section and maintain the pressure requirements. Hence, prior art anticipates the claim limitation.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horii in view of Konishi US 6,524,076 (Konishi).

Regarding claim 1, Horii discloses Coanda spiral flow device (Title), a suction intake (Fig 2 part #1), an outlet (Fig 2 part # 4), a fluid channel extending between the suction intake and the outlet (Fig 2), a drive flow inlet (Fig 2 part # 11), in fluid flow communication with the fluid channel (Fig 2), discharge slit (Fig 2 part #5), surrounded by larger bore (compared to outlet #4) surface (part # 6 Fig 2); by adjusting the threads via the coupling flanges (part # 3 and #9 Fig 2) the clearance of slit (part #5) is adjusted (col 3 lines 25-30).

Regarding the claim recitation "adjusts the flow cross section", Horii discloses difficulty in the conventional design to adjust the slit to an accuracy of 0.01 mm in the assembly operation (page 2 left col, line46); however, the improved design of forming the sub assemblies A, B and C (Fig 2) allows such an accuracy and permits the occasional assembly of units at the job site (page 3 left col, line 37). Consistent with the Horii teaching, slits are adjustable slits; hence, capable of adjustment of flow cross section.

Horii teaches the slip operation to maintain the required pressure. Horii does not explicitly teach the operation via electronic control unit that adjusts the flow.

However, Konishi while disclosing a control valve, teaches the electronic control unit that controls the flow rate of the fluid (claim 4). Konishi further teaches that the fluid flow can be controlled by an electronic control unit that takes input from sensors and operation of electronic control unit and pressure control is performed by the sensor input

to control or maintain a required flow (Claims 4, 5, 6, 7 and Fig 1). Konishi further teaches that by maintaining the sufficient flow rate by electronic control saves energy and produces high reliability (col 2 line 55).

Thus, at the time of invention it would have been obvious to a person of ordinary skill in the art to control the slit operation for adjusting flow (Horii) by using an electronic control unit (Konishi). One of ordinary skill in the art, at the time of the invention would have been motivated to do so because the process of electronic control makes the system energy efficient and produces higher reliability.

Regarding the claim limitation “after assembly of the Coanda flow amplifier” it is noted that the “Coanda flow amplifier” is an apparatus. It is further noted that the adjustment of the flow cross section so that the discharge slit does not exceed a critical ratio is the operational characteristics of the apparatus when the apparatus is in operation. The as-assembled state of the apparatus is not necessarily the operational state of the apparatus. The adjustment of the flow cross section by an electronic control unit is expected to take place during the operation of the apparatus after the assembly. Therefore, prior art anticipates the claim limitation.

Regarding the claim recitation of intake pressure does not exceed a critical pressure ratio, it is noted that functionality of the slit whether operated manually or electronically is to maintain the required pressure. In MPEP: 2114[R-1] Apparatus Functional Language: APPARATUS CLAIMS MUST BE STRUCTUR-ALLY DISTINGUISHABLE FROM THE PRIOR ART. While features of an apparatus may be

recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function.

Regarding claim 2, Horii further discloses adjustments of the threads via the coupling flanges (part # 3 and #9 Fig 2) the clearance of slit (part #5) is adjusted (col 3 lines 25-30). Consistent with the Horii teaching, at the time of invention it would have been obvious to a person of ordinary skill in the art that the slits are adjustable slits; hence, capable of adjustment of flow cross section and maintain the pressure requirements. Hence, prior art anticipates the claim limitation.

Claims 2 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP'93 in view of Konishi and further in view of McNair et al US 2856234 (McNair).

Regarding claim 2, teachings of Horii in view of Konishi have been delineated in the 103(a) rejection of claims 1 above.

Although Horii in view of Konishi discloses the discharge slit, and makes it adjustable by the threaded coupling flanges, Horii in view of Konishi does not explicitly teach the complete closure of the slit.

However, McNair while disclosing a proportionting device, teaches a liquid proportioning device (Title, examiner considers liquid to be a 'fluid'), a drive-flow discharge slit (Fig 3 part # 28'), a fluid conduit (Fig 3 part # 22), variably adjustable (Fig 3 part # 28, #26), can be completely closed (Fig 3 part # 28, #26). McNair further teaches the complete opening or closing for the automatically effecting the controlled

proportioning function and supply of chemical substances to a flowing stream of liquid vehicle (col 3 line 2).

Thus, at the time of invention it would have been obvious to a person of ordinary skill in the art to control the slit operation for adjusting flow by an electronic control unit (Horii, Konishi) using complete closing of the slits (McNair). One of ordinary skill in the art, at the time of the invention would have been motivated to do so because the process of complete closing or opening facilitates the dispensing of fluids with controlled mechanical admixtures.

Regarding claim 21, McNair discloses variably adjustable (Fig 3 part # 28, #26), can be completely closed (Fig 3 part # 28, #26). Regarding the claim recitation "during operation of the Coanda flow amplifier", Horii discloses difficulty in the conventional design to adjust the slit to an accuracy of 0.01 mm in the assembly operation (page 2 left col, line46); however, the improved design of forming the sub assemblies A, B and C (Fig 2) allows such an accuracy and permits the occasional assembly of units at the job site (page 3 left col, line 37). Consistent with the Horii teaching, slits are adjustable slits; hence, capable of adjustment during the operation.

Claims 3, 4, 5, 10, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horii in view of Konishi and further in view of Simon US 6739574 (Simon).

Regarding claims 3, 4, teachings of Horii in view of Konishi have been delineated above in the 103 (a) rejection of claim 1 above.

Although Horii in view of Konishi disclose the suction and outlet of the Coanda device and the structure of the device, Horii in view of Konishi does not explicitly disclose the flow guiding element.

However Simon while disclosing a fluid valve system, teaches a piezo electric valve (Title) for fluid valves (col 1 line 4), control fluid flow through an orifice (col 1 line 15, Figs 4 'on' and 'off'; it is noted that the flow guiding element due to state of 'on' and 'off'), along a longitudinal axis (Fig 1), in a direction opposite to the fluid flow direction in the fluid channel ("transverse" direction col 2 line 19). Simon further teaches the flow control through an orifice (Abstract) that is helpful in maintaining the flow cross section (Fig 4, 'on' and 'off' states).

Thus, at the time of invention it would have been obvious to a person of ordinary skill in the art to control the slit operation for adjusting flow by an electronic control unit (Horii, Konishi) using flow guiding elements (Simon). One of ordinary skill in the art, at the time of the invention would have been motivated to do so because the process of using flow guiding elements facilitates the flow across the channel that is controlled through the orifice.

Regarding the claim recitation of first housing section and the upstream face, examiner considers that the piezoelectric device is attachable, per the US'5734 disclosure, to any orifice where the fluid control is required. Horii discloses the suction and the discharge of the Coanda device. It would be obvious to a person of ordinary skill to attach the flow control piezoelectric device on the discharge of the Coanda device and form the additional housing the 3rd housing or even multiple housings.

Regarding claim 5, Simon discloses an enclosure that surrounds the flow guiding elements (Fig 1 and 2).

Regarding claim 10, Simon discloses an actuating element (Fig 3 part # 1a and 1b). Actuating means, as disclosed by Simon, affects the axial displacement.

Regarding claim 11, Simon discloses piezoelectric actuator (col 1 lines 5—55, Fig 4).

Regarding claim 12, Simon discloses the 'off' position in Fig 4 (it is noted that 'off' position is the inactive state) and further discloses the direction opposite to the fluid flow. Regarding the recitation "resiliently", it is noted that 'pre loading force' (Fig 3) makes the system resilient to maintain the actuation motion (Fig 4).

Claims 6, 7, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horii in view of Konishi and Simon and further in view of Davies US5433365 (Davies).

Regarding claim 6, teachings of over Horii in view of Konishi and Simon have been delineated above.

Although Horii in view of Konishi and Simon disclose the suction, exhaust and flow control housing, Horii in view of Konishi and Simon does not disclose the sealing means and the housing attached to the sealing means.

Davies discloses the fluid nozzle device (Title), sealing means (Fig 1A part # 118 'o' rings), distancing rings (Fig 1A, 1B and 1C part # 145, 149) and expansion space (Part # 13), sealing element is in the groove (part # 118), circumferential surface

of the flow path (Fig 1A, 1B and 1C part # 145, 149). Davies further teaches sealing devices with nozzle have the advantage of dynamic flow guides (col 2 line 45) and maintain expansion space (Fig 1a).

Thus, at the time of invention it would have been obvious to a person of ordinary skill in the art to control the slit operation for adjusting flow by an electronic control unit using flow guiding elements (Horii, Konishi and Simon) and utilizing the sealing means in a groove on the circumference (Davies). One of ordinary skill in the art, at the time of the invention would have been motivated to do so because the process of using sealing helps to maintain sealed joints with the benefit of expansion space.

Regarding claims 7, 8 and 9, Horii discloses the suction and the discharge of the Coanda device and Simon teaches housing that encloses the actuators with the expansion space as disclosed by Davies. It would be obvious to a person of ordinary skill in the art at the time of invention to attach the flow control piezoelectric device on the discharge of the Coanda device and form the additional housing the 3rd housing or even multiple housings.

Response to Arguments

Applicant's arguments filed 05/25/2011 have been fully considered but they are not persuasive for all of the reasons presented previously and as presented again as follows.

Applicants argue that “Horii does not teach or suggest that the flow device includes "an electronic control unit that adjusts the flow cross section of the drive-flow

discharge slit after assembly of the Coanda flow amplifier such that a pressure ratio between an output pressure of the drive flow that leaves the drive-flow discharge slit and an intake pressure of the drive flow that enters the drive-flow discharge slit does not exceed a critical pressure ratio," as recited in amended claim l" (page 10).

In response, examiner submits that examiner agrees with the applicants' assertion that Horii does not teach an electronic control unit; however, Horii teaches the flow control by manually adjusting the slit openings. Examiner further submits that the electronic control is functionally equivalent to the manual control of the flow. Examiner reminds the applicants that in MPEP 2144.04 III: "Providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art". Therefore, the applicants' arguments are not persuasive.

Applicants argue "Horii discloses that such an adjustment is made only during assembly of the Coanda spiral flow unit, and not after assembly of the Coanda spiral flow unit as recited in claim 1" (page 10).

In response, examiner submits that the claim 1 of Horii recites as following:

"1. A coanda spiral flow device comprising: a first unit having an end introducing port, an erect or inclined outer circumferential surface on the end opposite to said port, and a coupling flange; a second unit having a discharge outlet, an inclined or curved inner circumferential surface on the end opposite to said outlet and having a bore larger than that of said outlet, said inclined or curved surface opposing the said erect or inclined surface of said first unit to form a coanda slit, a conically tapered inclined surface extending from said inclined or curved surface towards the said discharge outlet, an annular groove on the outer surface adjacent the end having the said inner circumferential surface, and a coupling flange; and a

removable outer peripheral tube unit having a ventilation portion, which covers the said erect or inclined surface of the said first unit and the annular groove on the surface of the said second unit, and having both ends in close contact with the coupling flanges of said first and second units and forming a ventilation distribution chamber which communicates with said ventilation portion." (Horii Claim 1)

Examiner further submits that claim 1 (Horii) does not have any limitation of "after assembly" as argued by the applicants. Therefore, the applicants' arguments are not persuasive. Examiner further submits that the "Coanda flow amplifier" is an apparatus. It is further noted that the adjustment of the flow cross section so that the discharge slit does not exceed a critical ratio is the operational characteristics of the apparatus when the apparatus is in operation. The as-assembled state of the apparatus is not necessarily the operational state of the apparatus. The adjustment of the flow cross section by an electronic control unit is expected to take place during the operation of the apparatus after the assembly. Therefore, prior art anticipates the claim limitation. Therefore, the applicants' arguments are not persuasive.

Applicants argue "Horii teaches away from adjusting the clearance of the Coanda slit 5 after assembly of the Coanda spiral flow unit. As discussed above, the components of the Coanda spiral flow unit are designed such that the Coanda slit 5 has a specific slit clearance once the Coanda spiral flow unit is assembled (page 3, left column, lines 11-14 and 31-34)" (page 11).

In response, examiner submits that Horii teaches the following:

"The interconnection of the first unit A, the second unit B and the outer peripheral tube unit C can be easily effected by threaded fastenings at the coupling flanges 3 and 9. By adjustment of the threaded fastenings, the clearance of the coanda slit 5 through which compressed gas is fed can be set to a specified gap. The outer peripheral tube unit C is removable from the first and second units A and B. Various kinds of first unit A, second unit B and outer peripheral tube unit C, which are designed in advance to form the specified coanda slit 5, may be envisaged. This eliminates the difficulty which is inherent if the coanda slit 5 is adjusted during assembly as in the case of a conventional coanda spiral

unit, and thus permits the occasional assembly of the units at a job site, thereby remarkably improving convenience, and process accuracy and efficiency" (Horii page 3, left column, lines 22-40).

In fact, as disclosed in the above paragraph, Horii provides a solution of the adjustment during the assembly by providing the "various kinds of first unit A, second unit B and outer peripheral units C" which "eliminates the difficulty if the slit 5 is adjusted during the assembly". Clearly, Horii does not teach away as argued by the applicants. Therefore, the applicants' arguments are not persuasive.

Applicants argue "MPEP § 2173.05(g) states that "[a] functional limitation *must be evaluated and considered,* just like any other limitation of the claim, for what is fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used" (emphasis added)" (page 12).

In response, examiner submits that examiner agrees with applicants' assertion that functional limitation must be evaluated and considered; however, consideration and evaluation of a functional limitation does not necessarily make a functional limitation a claim limitation. In fact, "a functional limitation is an attempt to define something by what it does, rather than by what it is" MPEP 2173.05(g). In the instant case, the structural limitation of the apparatus is the "electronic control unit". The function of the electronic control unit is to control the flow which is considered to be the functionality of the control unit and not considered to be the claim limitation. Therefore, the applicants' arguments are not persuasive.

Conclusion

The claims 1-12 and 21 are rejected.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BIJAY SAHA whose telephone number is (571)270-5781. The examiner can normally be reached on Monday- Friday 8:00 a.m. EST - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on (571) 272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BIJAY S SAHA/
Examiner, Art Unit 1734

July 4, 2011

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1732